at1110paper_practice_test (v26)

1. Solve the equation.
$$6x^2 + 10x + 25 \;=\; 4x^2 - 5x - 3$$

$$2x^2 + 15x + 28 = 0$$
$$(2x + 7)(x + 4) = 0$$
$$x = \frac{-7}{2} \qquad x = -4$$

2. Factor the expression.
$$25x^2 - 64$$

$$(5x + 8)(5x - 8)$$

3. Expand the following expression into standard form.
$$(4x + 5)(4x - 5)$$

$$16x^2 - 20x + 20x - 25$$
$$16x^2 - 25$$

4. Expand the following expression into standard form.
$$(9x - 4)^2$$

$$81x^2 - 36x - 36x + 16$$
$$81x^2 - 72x + 16$$

5. Factor the expression.

$$x^2 + 5x - 24$$

$$(x - 3)(x + 8)$$

6. Expand the following expression into standard form.

$$(9x - 5)(4x + 7)$$

$$36x^2 + 63x - 20x - 35$$
$$36x^2 + 43x - 35$$

7. Solve the equation with factoring by grouping.

$$15x^2 - 20x - 6x + 8 \ = \ 0$$

$$(5x - 2)(3x - 4) = 0$$
$$x = \frac{2}{5} \qquad x = \frac{4}{3}$$

8. Solve the equation.

$$(3x + 5)(7x + 6) \ = \ 0$$

$$x = \frac{-5}{3} \qquad x = \frac{-6}{7}$$